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AI in the City, the Age of Prediction and Anticipation

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2. AI IN THE CITY, THE AGE OF PREDICTION AND ANTICIPATION

In this second part, we perform a deep dive into some of the most interesting cases of the deployment of artificial intelligence systems in cities. AI can be essentially analyzed as a "prediction technology," the diffusion of which can drastically bring down the cost of processing historical data and therefore of making prediction for a wide array of crucial tasks such as risk profiling, inventory management, and demand forecasting.

Such a cost decrease can in turn favor reliance on prediction for a growing number of tasks and activities, including and not limited to banking and insurance, real estate and construction, health monitoring, and predictive maintenance for all types of equipment and complex infrastructure.

Antonio Neves Da Silva and Patrice Novo first presents "Hubgrade": Veolia's smart monitoring centers. With 15 centers already deployed in several cities across Europe, Asia and the Middle East, "Hubgrade" represents Veolia's lead program to harness the rise of artificial intelligence comprehensively in order to optimize resource consumptions across the board (water, energy, and waste management). In these centers, Veolia's analysts leverage real-time data coming for a multitude of facilities equipped with networked sensors and smart meters (from municipal water networks to waste collection systems, to buildings, to industrial sites, to district energy systems and more) through algorithms to optimize resource consumption of municipal, commercial and industrial clients. This transformative program also includes business model innovation by offering clients "consumption performance as a service". Squaring the AI revolution with the quest for sustainability, Hubgrade ultimate goal is to accelerate the transition towards the circular economy.

Stanislas Chaillou, Daniel Fink and Pamela Goncalves then analyze the disruptive impact of machine learning algorithms on the real estate industry through forecast and prediction. A feasibility study that used to take four hours and cost $10,000, is now getting automated, taking 5 minutes with greater accuracy for example. We then learn from Wesam Lootah, CEO of the Smart Dubai Office about their pioneering cooperation with IBM Watson to use AI to transform government services and customer care. Launched in 2016, "Saad" is for instance a service that allows users from the business community to ask questions to the government and get up-to-date answers on business licensing and registration process in Dubai. Earlier this year, the Smart Dubai Office and IBM unveiled an AI-roadmap to help accelerate the development of AI-enabled citizen services across Dubai and equip the next generation of professionals with sought-after skills around analytics, cloud, cognitive and blockchain technology.

We subsequently move to India where the social venture *MicroHomeSolutions City Labs* reports on a series of innovative grassroots projects implemented in Delhi to empower low-income communities through digital access to construction knowledge and microfinance solutions. Marco Ferrario, Rakhi Mehra, Swati Janu analyze how increasing smartphone penetration associated with the rise of AI could radically improve the quality/safety and affordability of low income housing.

With Frank Escoubes, we then explore how emerging collective intelligence platforms and methodologies increasingly rely on algorithms and are used at the core of municipal governance processes. The cost and the efficiency of involving citizens and stakeholders in the co-construction of solutions adapted to city challenges is poised to herald a new era in participative democracy.

Finally, Alessandro Voto analyzes how blockchains technology – a kind of secured public ledger that lets communities store records permanently across a network of computers –, and other distributed digital infrastructures are transforming the way cities are managed and governed. This fast developing range of algorithmically powered peer-to-peer networks are used to enable low-cost secure transactions and contract design/execution at scale without the need for intermediaries. Fueled by a vibrant eco-systems of entrepreneurs and venture capitalists, examples of applications abound beyond now famous crypto-currencies like Bitcoin –blockchain's first killer use-case.

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